

WEST Search History

DATE: Friday, February 03, 2006

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		<i>DB=PGPB,USPT,EPAB,JPAB,TDBD; PLUR=YES; OP=OR</i>	
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<input type="checkbox"/>	L6	L3 and (audio near2 encod\$3)	1747
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<input type="checkbox"/>	L4	L3 and raster and bitrate	69
<input type="checkbox"/>	L3	audio and encod\$3 and (variable near2 length)	7361
<input type="checkbox"/>	L2	L1 and audio and encod\$3 and (variable near2 length)	21
		(6435737 6263422 5579430 4593271 5862173 6441755 5844615 6330666 6243496 4776037 5646950 5760717 6188337 6282690 4028535 4417102 4528550 4791599 4831635 4901331 4949176 5251261 5331320 5623517 5623557 6223162 6223162 4799053 4825390 4888645 5509088 5339312 5452206 5502571 5598148 5703793 5740460 5768629 5784631 5796743 5798719 5801973 5805914 5821885 5828907 5835792 5835740 5878273 5963154 5984512).pn.	49

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Search Results - Record(s) 1 through 14 of 14 returned.

☐ 1. Document ID: US 5956088 A Relevance Rank: 57

Using default format because multiple data bases are involved.

L13: Entry 13 of 14

File: USPT

Sep 21, 1999

US-PAT-NO: 5956088

DOCUMENT-IDENTIFIER: US 5956088 A

TITLE: Method and apparatus for modifying encoded digital video for improved channel utilization

DATE-ISSUED: September 21, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	/ COUNTRY
Shen; Paul	San Francisco	CA		
Arazi; Efraim	San Francisco	CA		
Krause; Edward A.	El Cerrito	CA		
Tom; Adam S.	San Francisco	CA		

US-CL-CURRENT: 375/240.25; 370/477

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	INNO	Draw Desc	Image
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☐ 2. Document ID: US 20050053150 A1 Relevance Rank: 56

L13: Entry 9 of 14

File: PGPB

Mar 10, 2005

PGPUB-DOCUMENT-NUMBER: 20050053150

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20050053150 A1

TITLE: Conditional lapped transform

PUBLICATION-DATE: March 10, 2005

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Hsu, Pohsiang	Redmond	WA	US
Srinivasan, Sridhar	Redmond	WA	US

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	COUNTRY	TYPE CODE
Microsoft Corporation	Redmond	WA		02

APPL-NO: 10/931885 [PALM]

DATE FILED: August 31, 2004

RELATED-US-APPL-DATA:

Application is a non-provisional-of-provisional application 60/501081, filed September 7, 2003,

INT-CL-PUBLISHED: [07] H04 N 7/12

US-CL-PUBLISHED: 375/240.18; 375/240.24, 375/240.03

US-CL-CURRENT: 375/240.18; 375/240.03, 375/240.24

REPRESENTATIVE-FIGURES: 3

ABSTRACT:

A digital media content (e.g., image, video, audio, etc.) encoder/decoder employs a spatially varying parameter to condition the application of an overlap pre-process and post-process to adjacent transform block edges for the spatial-domain lapped transform. This conditional application of the lapped transform to sub-blocks of the digital media can be signaled on an edge, block, macro-block or other granularity. Further, a restriction on use of the conditional lapped transform based on a frame-level quantization or other bit-rate related parameter minimizes the signaling overhead impact at low bit-rates of coding.

CROSS REFERENCE TO RELATED APPLICATIONS

[0001] This application claims the benefit of U.S. Provisional Patent Application Ser. No. 60/501,081, filed Sep. 7, 2003, the disclosure of which is incorporated herein by reference.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	NUMC	Draw Desc	Image
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☐ 3. Document ID: US 20050053302 A1 Relevance Rank: 56

L13: Entry 6 of 14

File: PGPB

Mar 10, 2005

PGPUB-DOCUMENT-NUMBER: 20050053302

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20050053302 A1

TITLE: Interlace frame lapped transform

PUBLICATION-DATE: March 10, 2005

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Srinivasan, Sridhar	Redmond	WA	US
Hsu, Pohsiang	Redmond	WA	US

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	COUNTRY	TYPE CODE
Microsoft Corporation	Redmond	WA		02

APPL-NO: 10/931695 [PALM]

DATE FILED: August 31, 2004

RELATED-US-APPL-DATA:

Application is a non-provisional-of-provisional application 60/501081, filed September 7, 2003,

INT-CL-PUBLISHED: [07] G06 K 9/36

US-CL-PUBLISHED: 382/248

US-CL-CURRENT: 382/248

ABSTRACT:

A video encoder/decoder implements a lapped transform by applying an overlap filter in the spatial or transform domains to transform blocks. For interlace frames whose alternating scan lines are temporally displaced, the encoder/decoder imposes a limitation on application of the overlap filter to exclude horizontal block edges between adjacent transform blocks. This limitation can be imposed in both implementations where the overlap transform is applied across all blocks of an image, as well as implementations in which the lapped transform is conditionally applied on a spatially varying basis across the image.

CROSS REFERENCE TO RELATED APPLICATIONS

[0001] This application claims the benefit of U.S. Provisional Patent Application Serial No. 60/501,081, filed Sep. 7, 2003, the disclosure of which is incorporated herein by reference.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	NUMC	Draw Desc	Image
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☐ 4. Document ID: US 5805762 A Relevance Rank: 48

L13: Entry 14 of 14

File: USPT

Sep 8, 1998

US-PAT-NO: 5805762

DOCUMENT-IDENTIFIER: US 5805762 A

TITLE: Video recording device compatible transmitter

DATE-ISSUED: September 8, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Boyce; Jill MacDonald	East Windsor	NJ		
Fuhrer; Jack Selig	Princeton Junction	NJ		
Henderson; John Goodchilde Norie	Princeton	NJ		
Lane; Frank Anton	Cranbury	NJ		
Plotnick; Michael Allen	Southampton	PA		

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
Hitachi America, Ltd.	Tarrytown	NY			02

APPL-NO: 08/228949 [PALM]

DATE FILED: April 18, 1994

PARENT-CASE:

This is a continuation of application Ser. No. 08/004,158, filed on Jan. 13, 1993 now abandoned.

INT-CL-ISSUED: [06] H04 N 5/91

US-CL-ISSUED: 386/68; 386/67

US-CL-CURRENT: 386/68; 386/67

FIELD-OF-CLASSIFICATION-SEARCH: 358/335, 358/310, 358/312, 358/313, 358/343, 358/341, 348/384, 348/408, 360/10.1, 360/11.1, 360/10.3, 360/19.1, 360/32, 386/67, 386/68, 386/109, 386/111, 386/112, 386/27, 386/33, 386/69, 386/37, 386/110, H04N 591, H04N005/91

See application file for complete search history.

U.S. PATENT DOCUMENTS

PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
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<u>4139867</u>	February 1979	Foerster	
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<u>5386241</u>	January 1995	Park	
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FOREIGN-PAT-NO	PUBN-DATE	COUNTRY	CLASS
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S. Inoue, H. Kaneko, H. Takao, T. Fujii, M. Ishibashi, IEEE Transactions on Consumer Electronics, "New Method for Variable Speed Playback for High Definition VCRs", vol. 37, No. 3, Aug. 1991, pp. 244-251.

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P. Kauf, S. Rauthenberg, "A DCT Coding Scheme for digital HDTV Recording", Signal Processing of HDTV, III Proceedings of the 4th Int. Workshop on HDTV, Apr. 9, 1991, pp. 33-41.

ART-UNIT: 272

PRIMARY-EXAMINER: Chevalier; Robert

ATTY-AGENT-FIRM: Michaelson & Wallace Michaelson; Peter L. Straub; Michael P.

ABSTRACT:

A device for transmitting digital packetized video and audio data is disclosed. The transmitter includes a video encoder, a prioritizer, and a packetizer. The video encoder receives video signals and encodes the video signals into a digital video data stream including codewords. The video encoder also generates motion vectors and fully intra-coded video frames for use by a video tape recorder during trick play operation. The prioritizer is coupled to the video encoder. The prioritizer receives the digital video data stream and prioritizes the video data according to a preselected prioritization scheme optimized for identifying data useful to video tape recorder trick play operation. The preselected prioritization scheme assigns the video codewords in the video data stream to a priority level according to the utility of each video codeword for video tape recorder recording and playback operation and outputs both the video codewords and a priority level signal. The video codewords and the priority level signal are supplied to a transport packetizer which packetizes the video codewords and associates a header with each packet. The headers contain information identifying the assigned priority level of the codewords in each packet. This makes it possible for a video tape recorder receiving the video packets to determine the utility of the codewords in a given packet from the priority level information in the packet headers.

39 Claims, 30 Drawing figures

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWOC	Draw Desc	Image
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5. Document ID: US 20050053292 A1 Relevance Rank: 46

TITLE: Advanced bi-directional predictive coding of interlaced video

PUBLICATION-DATE: March 10, 2005

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Mukerjee, Kunal	Redmond	WA	US
Holcomb, Thomas W.	Bothell	WA	US

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	COUNTRY	TYPE CODE
Microsoft Corporation	Redmond	WA	US	02

APPL-NO: 10/882135 [PALM]

DATE FILED: June 29, 2004

RELATED-US-APPL-DATA:

Application is a non-provisional-of-provisional application 60/501081, filed September 7, 2003,

INT-CL-PUBLISHED: [07] G06 K 9/36, G06 K 9/46

US-CL-PUBLISHED: 382/236; 382/238

US-CL-CURRENT: 382/236; 382/238

REPRESENTATIVE-FIGURES: 44

ABSTRACT:

For interlaced B-fields or interlaced B-frames, forward motion vectors are predicted by an encoder/decoder using forward motion vectors from a forward motion vector buffer, and backward motion vectors are predicted using backward motion vectors from a backward motion vector buffer. The resulting motion vectors are added to the corresponding buffer. Holes in motion vector buffers can be filled in with estimated motion vector values. An encoder/decoder switches prediction modes between fields in a field-coded macroblock of an interlaced B-frame. For interlaced B-frames and interlaced B-fields, an encoder/decoder computes direct mode motion vectors. For interlaced B-fields or interlaced B-frames, an encoder/decoder uses 4 MV coding. An encoder/decoder uses "self-referencing" B-frames. An encoder sends binary information indicating whether a prediction mode is forward or not-forward for one or more macroblocks in an interlaced B-field. An encoder/decoder uses intra-coded B-fields ["BI-fields"].

RELATED APPLICATION INFORMATION

[0001] This application claims the benefit of U.S. Provisional Patent Application No. 60/501,081, entitled "Video Encoding and Decoding Tools and Techniques," filed Sep. 7, 2003, which is hereby incorporated by reference.

[0002] The following co-pending U.S. patent applications relate to the present application and are hereby incorporated by reference: 1) U.S. patent application Ser. No. 10/622,378, entitled, "Advanced Bi-Directional Predictive Coding of Video Frames," filed Jul. 18, 2003; 2) U.S. patent application Ser. No. 10/622,284, entitled, "Intraframe and Interframe Interlace Coding and Decoding," filed July 18, 2003; 3) U.S. patent application Ser. No. 10/622,841, entitled, "Coding of Motion Vector Information," filed Jul. 18, 2003; and 4) U.S. patent application Ser. No. xx/yyy,zzz, entitled, "Predicting Motion Vectors for Fields of Forward-predicted Interlaced Video Frames," filed May 27, 2004.

L13: Entry 12 of 14

File: PGPB

Jun 19, 2003

PGPUB-DOCUMENT-NUMBER: 20030113026
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20030113026 A1

TITLE: Skip macroblock coding

PUBLICATION-DATE: June 19, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Srinivasan, Sridhar	Seattle	WA	US
Hsu, Pohsiang	Redmond	WA	US

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	COUNTRY	TYPE CODE
Microsoft Corporation				02

APPL-NO: 10/321415 [PALM]
DATE FILED: December 16, 2002

RELATED-US-APPL-DATA:

Application is a non-provisional-of-provisional application 60/341674, filed December 17, 2001,

Application is a non-provisional-of-provisional application 60/377712, filed May 3, 2002,

INT-CL-PUBLISHED: [07] G06 K 9/36, G06 K 9/46

US-CL-PUBLISHED: 382/239; 382/238

US-CL-CURRENT: 382/239; 382/238

REPRESENTATIVE-FIGURES: 10

ABSTRACT:

Various techniques and tools for encoding and decoding (e.g., in a video encoder/decoder) binary information (e.g., skipped macroblock information) are described. In some embodiments, the binary information is arranged in a bit plane, and the bit plane is coded at the picture/frame layer. The encoder and decoder process the binary information and, in some embodiments, switch coding modes. For example, the encoder and decoder use normal, row-skip, column-skip, or differential modes, or other and/or additional modes. In some embodiments, the encoder and decoder define a skipped macroblock as a predicted macroblock whose motion is equal to its causally predicted motion and which has zero residual error. In some embodiments, the encoder and decoder use a raw coding mode to allow for low-latency applications.

RELATED APPLICATION INFORMATION

[0001] The present application claims the benefit of U.S. Provisional Patent Application Serial No. 60/341,674, entitled "Techniques and Tools for Video Encoding and Decoding," filed Dec. 17, 2001, the disclosure of which is incorporated by reference. The present application also claims the benefit of U.S. Provisional Patent Application Serial No. 60/377,712, entitled "Skip Macroblock Coding," filed May 3, 2002, the disclosure of which is incorporated by reference.

L13: Entry 7 of 14

File: PGPB

Mar 10, 2005

PGPUB-DOCUMENT-NUMBER: 20050053300
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20050053300 A1

TITLE: Bitplane coding of prediction mode information in bi-directionally predicted interlaced pictures

PUBLICATION-DATE: March 10, 2005

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Mukerjee, Kunal	Redmond	WA	US

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	COUNTRY	TYPE CODE
Microsoft Corporation	Redmond	WA		02

APPL-NO: 10/942458 [PALM]
DATE FILED: September 15, 2004

RELATED-US-APPL-DATA:

Application 10/942458 is a division-of US application 10/882135, filed June 29, 2004, PENDING
Application is a non-provisional-of-provisional application 60/501081, filed September 7, 2003,

INT-CL-PUBLISHED: [07] G06 K 9/36, G06 K 9/46

US-CL-PUBLISHED: 382/239; 382/236, 382/238

US-CL-CURRENT: 382/239; 382/236, 382/238

REPRESENTATIVE-FIGURES: 51

ABSTRACT:

An encoder sends binary information indicating whether a prediction mode is forward or not-forward for one or more macroblocks in an interlaced B-field. For example, the encoder sends forward/not-forward decision information at B-field level in a compressed bitplane. Sending forward/not-forward prediction mode decision information in a compressed bitplane at B-field level can reduce coding overhead for prediction mode coding. A decoder performs corresponding decoding.

RELATED APPLICATION INFORMATION

[0001] This application is a divisional of U.S. patent application Ser. No. 10/882,135, entitled, "Advanced Bi-directional Predictive Coding of Interlaced Video," filed Jun. 29, 2004, which claims the benefit of U.S. Provisional Patent Application No. 60/501,081, entitled "Video Encoding and Decoding Tools and Techniques," filed Sep. 7, 2003, both of which are hereby incorporated by reference.

[0002] The following co-pending U.S. patent applications relate to the present application and are hereby incorporated by reference: 1) U.S. patent application Ser. No. 10/622,378, entitled, "Advanced Bi-Directional Predictive Coding of Video Frames," filed Jul. 18, 2003; 2) U.S. patent application Ser. No. 10/622,284, entitled, "Intraframe and Interframe Interlace Coding and Decoding," filed Jul. 18, 2003; 3) U.S. patent application Ser. No. 10/622,841, entitled, "Coding of Motion Vector Information," filed Jul. 18, 2003; and 4) U.S. patent application Ser. No. 10/857,453, entitled, "Predicting Motion Vectors for Fields of Forward-predicted Interlaced

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KMC	Draw Desc	Image
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☐ 8. Document ID: US 20050053148 A1 Relevance Rank: 46

L13: Entry 10 of 14

File: PGPB

Mar 10, 2005

PGPUB-DOCUMENT-NUMBER: 20050053148

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20050053148 A1

TITLE: Intra-coded fields for Bi-directional frames

PUBLICATION-DATE: March 10, 2005

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Mukerjee, Kunal	Redmond	WA	US

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	COUNTRY	TYPE CODE
Microsoft Corporation	Redmond	WA		02

APPL-NO: 10/942502 [PALM]

DATE FILED: September 15, 2004

RELATED-US-APPL-DATA:

Application 10/942502 is a division-of US application 10/882135, filed June 29, 2004, PENDING
Application is a non-provisional-of-provisional application 60/501081, filed September 7, 2003,

INT-CL-PUBLISHED: [07] H04 N 7/12

US-CL-PUBLISHED: 375/240.16; 375/240.12, 375/240.15, 375/240.24

US-CL-CURRENT: 375/240.16; 375/240.12, 375/240.15, 375/240.24

REPRESENTATIVE-FIGURES: 56

ABSTRACT:

An encoder/decoder uses intra-coded B-fields ["BI-fields"]. For example, rather than encoding many of the macroblocks in a field as intra macroblocks at a scene change, an encoder can choose to encode the entire field as intra. Encoding an entire field as a BI-field allows increased coding efficiency through reduced coding overhead at macroblock level, and without intra-frame dependency, the BI-field can still be dropped if appropriate in low-bitrate applications.

RELATED APPLICATION INFORMATION

[0001] This application is a divisional of U.S. patent application Ser. No. 10/882,135, entitled, "Advanced Bi-directional Predictive Coding of Interlaced Video," filed Jun. 29, 2004, which claims the benefit of U.S. Provisional Patent Application No. 60/501,081, entitled "Video Encoding and Decoding Tools and Techniques," filed Sep. 7, 2003, both of which are hereby incorporated by reference.

[0002] The following co-pending U.S. patent applications relate to the present application and are hereby incorporated by reference: 1) U.S. patent application Ser. No. 10/622,378, entitled, "Advanced Bi-Directional Predictive Coding of Video Frames," filed Jul. 18, 2003; 2) U.S.

patent application Ser. No. 10/622,284, entitled, "Intraframe and Interframe Interlace Coding and Decoding," filed Jul. 18, 2003; 3) U.S. patent application Ser. No. 10/622,841, entitled, "Coding of Motion Vector Information," filed Jul. 18, 2003; and 4) U.S. patent application Ser. No. 10/857,453, entitled, "Predicting Motion Vectors for Fields of Forward-predicted Interlaced Video Frames," filed May 27, 2004.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	ISMC	Draw Data	Image
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9. Document ID: US 20050053145 A1 Relevance Rank: 46

L13: Entry 11 of 14

File: PGPB

Mar 10, 2005

PGPUB-DOCUMENT-NUMBER: 20050053145
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20050053145 A1

TITLE: Macroblock information signaling for interlaced frames

PUBLICATION-DATE: March 10, 2005

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Hsu, Pohsiang	Redmond	WA	US
Lin, Chih-Lung	Redmond	WA	US
Srinivasan, Sridhar	Redmond	WA	US
Holcomb, Thomas W.	Bothell	WA	US

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	COUNTRY	TYPE CODE
Microsoft Corporation	Redmond	WA		02

APPL-NO: 10/934929 [PALM]
DATE FILED: September 2, 2004

RELATED-US-APPL-DATA:

Application is a non-provisional-of-provisional application 60/501081, filed September 7, 2003,

INT-CL-PUBLISHED: [07] H04 N 7/12

US-CL-PUBLISHED: 375/240.16; 375/240.24, 375/240.12

US-CL-CURRENT: 375/240.16; 375/240.12, 375/240.24

REPRESENTATIVE-FIGURES: 17

ABSTRACT:

A decoder decodes skipped macroblocks of an interlaced frame. Skipped macroblocks use exactly one motion vector and have no motion vector differential information, and lack residual information. The skipped macroblock signal indicates one-motion-vector coding. The skipped macroblock signal can be a compressed bitplane (in a selected bitplane coding mode) sent at frame layer in a bitstream, or an individual bit sent at macroblock layer. In another aspect, an encoder jointly encodes motion compensation type and field/frame coding type for a macroblock in an interlaced P-frame. The encoder also can jointly encode other information for the macroblock (e.g., the presence of a differential motion vector). A decoder decodes a joint code (e.g., a variable length code in a variable length code table) to obtain both motion compensation type and field/frame coding type (and potentially other information) for the macroblock.

RELATED APPLICATION INFORMATION

[0001] This application claims the benefit of U.S. Provisional Patent Application No. 60/501,081, entitled "Video Encoding and Decoding Tools and Techniques," filed Sep. 7, 2003, which is hereby incorporated by reference.

[0002] The following co-pending U.S. patent applications relate to the present application and are hereby incorporated by reference: 1) U.S. patent application Ser. No. xx/yyy,zzz, entitled, "Motion Vector Coding and Decoding in Interlaced Frame Coded Pictures," filed concurrently herewith; and 2) U.S. patent application Ser. No. xx/yyy,zzz, entitled, "Chroma Motion Vector Derivation," filed concurrently herewith.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KMC	Draw Desc	Image
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☐ 10. Document ID: US 20050084012 A1 Relevance Rank: 45

L13: Entry 5 of 14

File: PGPB

Apr 21, 2005

PGPUB-DOCUMENT-NUMBER: 20050084012
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20050084012 A1

TITLE: In-loop deblocking for interlaced video

PUBLICATION-DATE: April 21, 2005

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Hsu, Pohsiang	Redmond	WA	US
Lin, Chih-Lung	Redmond	WA	US
Srinivasan, Sridhar	Redmond	WA	US
Holcomb, Thomas W.	Bothell	WA	US

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	COUNTRY	TYPE CODE
Microsoft Corporation	Redmond	WA		02

APPL-NO: 10/934116 [PALM]
DATE FILED: September 4, 2004

RELATED-US-APPL-DATA:

Application is a non-provisional-of-provisional application 60/501081, filed September 7, 2003,

INT-CL-PUBLISHED: [07] H04 N 7/12

US-CL-PUBLISHED: 375/240.12; 375/240.24
US-CL-CURRENT: 375/240.12; 375/240.24

REPRESENTATIVE-FIGURES: 25

ABSTRACT:

An encoder/decoder obtains pixel data from one or more field lines associated with a first block in an interlaced frame coded picture comprising plural macroblocks each having an equal number of top and bottom field lines. The encoder/decoder obtains pixel data from one or more field lines associated with a second block and performs in-loop deblocking filtering across a boundary. The in-loop deblocking filtering comprises filter operations performed on pixel data from field lines of same polarity only. In another aspect, an encoder/decoder obtains transform

size information for plural blocks of macroblock, obtains field/frame type information for the macroblock and selects one or more boundaries for in-loop deblocking based at least in part on the transform size information and the field/frame type information. In-loop deblocking can be performed on horizontal block boundaries prior to vertical block boundaries.

RELATED APPLICATION INFORMATION

[0001] This application claims the benefit of U.S. Provisional Patent Application No. 60/501,081, entitled "Video Encoding and Decoding Tools and Techniques," filed Sep. 7, 2003, which is hereby incorporated by reference.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KMC	Draw Desc	Image
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☐ 11. Document ID: US 20050099869 A1 Relevance Rank: 45

L13: Entry 4 of 14

File: PGPB

May 12, 2005

PGPUB-DOCUMENT-NUMBER: 20050099869
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20050099869 A1

TITLE: Field start code for entry point frames with predicted first field

PUBLICATION-DATE: May 12, 2005

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Crinon, Regis J.	Camas	WA	US
Holcomb, Thomas W.	Bothell	WA	US
Regunathan, Shankar	Bellevue	WA	US
Srinivasan, Sridhar	Redmond	WA	US

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	COUNTRY	TYPE CODE
Microsoft Corporation	Redmond	WA		02

APPL-NO: 10/989596 [PALM]
DATE FILED: November 15, 2004

RELATED-US-APPL-DATA:

Application 10/989596 is a continuation-in-part-of US application 10/882739, filed June 30, 2004, PENDING
Application 10/989596 is a continuation-in-part-of US application 10/934116, filed September 4, 2004, PENDING
Application is a non-provisional-of-provisional application 60/520543, filed November 13, 2003,
Application is a non-provisional-of-provisional application 60/501081, filed September 7, 2003,

INT-CL-PUBLISHED: [07] G11 C 7/00

US-CL-PUBLISHED: 365/222
US-CL-CURRENT: 365/222

REPRESENTATIVE-FIGURES: 14

ABSTRACT:

A decoder receives a field start code for an entry point key frame. The field start code

indicates a second coded interlaced video field in the entry point key frame following a first coded interlaced video field in the entry point key frame and indicates a point to begin decoding of the second coded interlaced video field. The first coded interlaced video field is a predicted field, and the second coded interlaced video field is an intra-coded field. The decoder decodes the second field without decoding the first field. The field start code can be followed by a field header. The decoder can receive a frame header for the entry point key frame. The frame header may comprise a syntax element indicating a frame coding mode for the entry point key frame and/or a syntax element indicating field types for the first and second coded interlaced video fields.

RELATED APPLICATION INFORMATION

[0001] This application is a continuation-in-part of U.S. patent application Ser. No. 10/882,739, filed Jun. 30, 2004, which claims the benefit of U.S. Provisional Patent Application Ser. No. 60/520,543, filed Nov. 13, 2003, the disclosures of which are incorporated herein by reference.

[0002] This application is also a continuation-in-part of U.S. patent application Ser. No. 10/934,116, filed Sep. 4, 2004, which claims the benefit of U.S. Provisional Patent Application Ser. No. 60/501,081, filed Sep. 7, 2003, the disclosures of which are incorporated herein by reference.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	WWW	Draw Desc	Image
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☐ 12. Document ID: US 20050152448 A1 Relevance Rank: 45

L13: Entry 1 of 14

File: PGPB

Jul 14, 2005

PGPUB-DOCUMENT-NUMBER: 20050152448

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20050152448 A1

TITLE: Signaling for entry point frames with predicted first field

PUBLICATION-DATE: July 14, 2005

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Crinon, Regis J.	Camas	WA	US
Holcomb, Thomas W.	Bothell	WA	US
Regunathan, Shankar	Bellevue	WA	US
Srinivasan, Sridhar	Redmond	WA	US

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	TYPE CODE
Microsoft Corporation	Redmond	WA	02

APPL-NO: 10/989843 [PALM]

DATE FILED: November 15, 2004

RELATED-US-APPL-DATA:

Application 10/989843 is a continuation-in-part-of US application 10/882739, filed June 30, 2004, PENDING

Application 10/989843 is a continuation-in-part-of US application 10/934116, filed September 4, 2004, PENDING

Application is a non-provisional-of-provisional application 60/520543, filed November 13, 2003,

Application is a non-provisional-of-provisional application 60/501081, filed September 7, 2003,

INT-CL-PUBLISHED: [07] H04 N 7/12

US-CL-PUBLISHED: 375/240.01; 375/240.25, 348/700

US-CL-CURRENT: 375/240.01; 348/700, 375/240.25

REPRESENTATIVE-FIGURES: 11

ABSTRACT:


A video decoder receives an entry point key frame comprising first and second interlaced video fields and decodes a first syntax element comprising information (e.g., frame coding mode) for the entry point key frame at a first syntax level (e.g., frame level) in a bitstream. The first interlaced video field is a predicted field, and the second interlaced video field is an intra-coded field. The information for the entry point key frame can be a frame coding mode (e.g., field interlace) for the entry point key frame. The decoder can decode a second syntax element at the first syntax level comprising second information (e.g., field type for each of the first and second interlaced video fields) for the entry point key frame.

RELATED APPLICATION INFORMATION

[0001] This application is a continuation-in-part of U.S. patent application Ser. No. 10/882,739, filed Jun. 30, 2004, which claims the benefit of U.S. Provisional Patent Application Ser. No. 60/520,543, filed Nov. 13, 2003, the disclosures of which are incorporated herein by reference.

[0002] This application is also a continuation-in-part of U.S. patent application Ser. No. 10/934,116, filed Sep. 4, 2004, which claims the benefit of U.S. Provisional Patent Application Ser. No. 60/501,081, filed Sep. 7, 2003, the disclosures of which are incorporated herein by reference.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KLOC	Draw Desc	Image
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 13. Document ID: US 20050123274 A1 Relevance Rank: 45

L13: Entry 3 of 14

File: PGPB

Jun 9, 2005

PGPUB-DOCUMENT-NUMBER: 20050123274

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20050123274 A1

TITLE: Signaling coding and display options in entry point headers

PUBLICATION-DATE: June 9, 2005

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Crinon, Regis J.	Camas	WA	US
Lin, Chih-Lung	Redmond	WA	US
Liang, Jie	Coquitlam	WA	CA
Regunathan, Shankar	Bellevue	WA	US
Wu, Shuo-Jen	Redmond	WA	US
Onders, Timothy E.	Kirkland	WA	US
Holcomb, Thomas W.	Bothell		US

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	COUNTRY	TYPE CODE
Microsoft Corporation	Redmond	WA		02

APPL-NO: 10/989845 [PALM]
DATE FILED: November 15, 2004

RELATED-US-APPL-DATA:

Application 10/989845 is a continuation-in-part-of US application 10/882739, filed June 30, 2004, PENDING
Application 10/989845 is a continuation-in-part-of US application 10/934116, filed September 4, 2004, PENDING
Application is a non-provisional-of-provisional application 60/520543, filed November 13, 2003,
Application is a non-provisional-of-provisional application 60/501081, filed September 7, 2003,

INT-CL-PUBLISHED: [07] H04 N 5/783

US-CL-PUBLISHED: 386/069; 386/095
US-CL-CURRENT: 386/69; 386/95

REPRESENTATIVE-FIGURES: 2

ABSTRACT:

A decoder receives an entry point header comprising plural control parameters for an entry point segment corresponding to the entry point header. The entry point header is in an entry point layer of a bitstream comprising plural layers. The decoder decodes the entry point header. The plural control parameters can include various combinations of control parameters such as a pan scan on/off parameter, a reference frame distance on/off parameter, a loop filtering on/off parameter, a fast chroma motion compensation on/off parameter, an extended range motion vector on/off parameter, a variable sized transform on/off parameter, an overlapped transform on/off parameter, a quantization decision parameter, and an extended differential motion vector coding on/off parameter, a broken link parameter, a closed entry parameter, one or more coded picture size parameters, one or more range mapping parameters, a hypothetical reference decoder buffer parameter, and/or other parameter(s).

RELATED APPLICATION INFORMATION

[0001] This applicatin is a continuation-in-part of U.S. patent application Ser. No. 10/882,739, filed Jun. 30, 2004, which claims the benefit of U.S. Provisional Patent Application Ser. No. 60/520,543, filed Nov. 13, 2003, the disclosures of which are incorporated herein by reference.

[0002] This application is also a continuation-in-part of U.S. patent application Ser. No. 10/934,116, filed Sep. 4, 2004, which claims the benefit of U.S. Provisional Patent Application Ser. No. 60/501,081, filed Sep. 7, 2003, the disclosures of which are incorporated herein by reference.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw Desc	Image
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☐ 14. Document ID: US 20050135783 A1 Relevance Rank: 45

L13: Entry 2 of 14

File: PGPB

Jun 23, 2005

PGPUB-DOCUMENT-NUMBER: 20050135783
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20050135783 A1

TITLE: Trick mode elementary stream and receiver system

PUBLICATION-DATE: June 23, 2005

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Crinon, Regis J.	Camas	WA	US

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	COUNTRY	TYPE CODE
Microsoft Corporation	Redmond	WA		02

APPL-NO: 10/989827 [PALM]
DATE FILED: November 15, 2004

RELATED-US-APPL-DATA:

Application 10/989827 is a continuation-in-part-of US application 10/882739, filed June 30, 2004, PENDING
Application 10/989827 is a continuation-in-part-of US application 10/934116, filed September 4, 2004, PENDING
Application is a non-provisional-of-provisional application 60/520543, filed November 13, 2003,
Application is a non-provisional-of-provisional application 60/501081, filed September 7, 2003,

INT-CL-PUBLISHED: [07] H04 N 5/783

US-CL-PUBLISHED: 386/068; 386/082
US-CL-CURRENT: 386/68; 386/82

REPRESENTATIVE-FIGURES: 18

ABSTRACT:

A video receiver system comprises a video elementary stream decoder that decodes an elementary stream and one or more trick mode processing modules that modify the elementary stream to enable a trick mode effect. The trick mode processing module(s) produce a trick mode elementary stream for input to the video elementary stream decoder module. For example, the one or more trick mode processing modules can replace plural non-key frames of the elementary stream with one or more P-type skipped frames for a fast forward effect, where the trick mode elementary stream comprises one or more entry point key frames and the one or more P-type skipped frames. The video receiver system can selectively route the elementary stream to either the video elementary stream decoder module or the one or more trick mode processing modules.

RELATED APPLICATION INFORMATION

[0001] This application is a continuation-in-part of U.S. patent application Ser. No. 10/882,739, filed Jun. 30, 2004, which claims the benefit of U.S. Provisional Patent Application Ser. No. 60/520,543, filed Nov. 13, 2003, the disclosures of which are incorporated herein by reference.

[0002] This application is also a continuation-in-part of U.S. patent application Ser. No. 10/934,116, filed Sep. 4, 2004, which claims the benefit of U.S. Provisional Patent Application Ser. No. 60/501,081, filed Sep. 7, 2003, the disclosures of which are incorporated herein by reference.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	FIGS	Draw Desc	Image
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